

Abstract of the Disclosure

5 The gain control circuit controls the
amplification ratio of EDFA based on the results of having
measured the input power monitor which monitors the EDFA
input optical level which amplifies light and of having
measured the output power monitor which monitors the
output optical level. The optical pre-amplifier receives
a notice of the number of wavelengths from a fore node
10 and a notice of whether the optical post-amplifier of
a fore node is in normal operation by a supervisory control
signal, and changes over the gain control circuit to
either the ALC or AGC mode. When the number of wavelengths
changes while the optical pre-amplifier is operating
15 in the ALC mode, the optical pre-amplifier is controlled
in the AGC mode using the backed-up amplifier gain. Also,
the gain value when the optical pre-amplifier is in
routine operation is backed up in an amplifier gain
back-up unit and an back-up unit.